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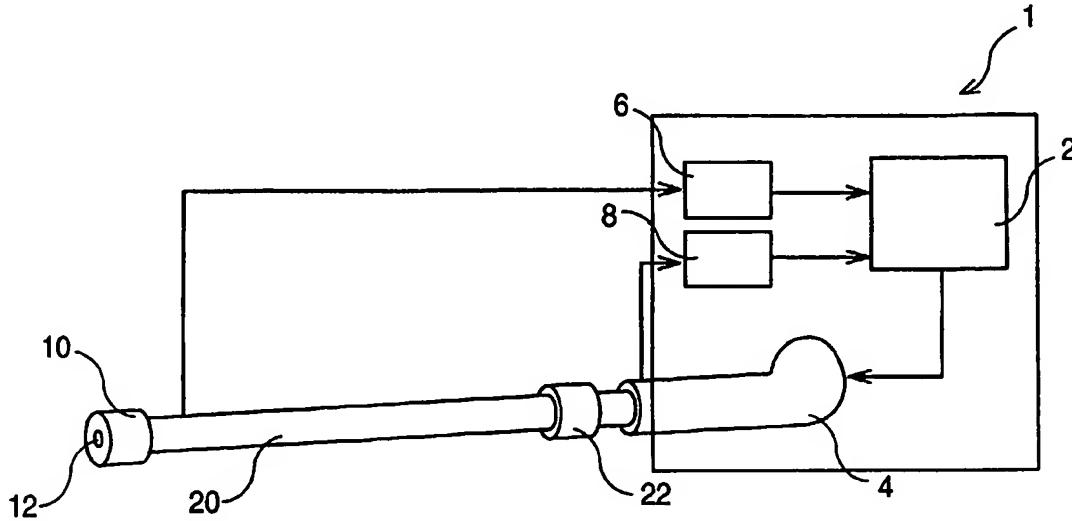
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(54) Title: AN AIR ASSISTANCE APPARATUS FOR COMPUTING THE AIRFLOW PROVIDED BY ONLY MEANS OF PRESSURE SENSORS

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(57) Abstract: The invention concerns an apparatus (1) to assist a patient respiration by delivering air to a patient through a mask, said mask being designed to be connected on one first extremity of a tube, said apparatus comprising: - a control unit (2) to adjust the pressure delivered by the blower (4) of said apparatus, - a first pressure sensor (6) for sensing the pressure PM at said first tube extremity and being connected to said control unit, and - a second pressure sensor (8) for sensing the pressure PB at the air output of said blower and being connected to said control unit; in order that, when a tube is connected to said mask and connected to said apparatus on its said second extremity, the air flowing from the apparatus to the mask, said control unit is able to calculate the airflow at said second extremity of the tube from said pressures PM and PB and from the airflow resistance coefficient  $K_t$  of said tube.